



# **Dryden Dust Storms**

**July 16, July 30 2003**

**Lessons Learned**

**Presenter: Tom Ambrose**





**Question? How many hundred year weather events do you expect each week?**

**DFRC Pre 2003 Answer:  
Apparently not nearly enough.**





# **What it was like at Dryden.**





## Mission Success Starts With Safety





## Mission Success Starts With Safety





## Mission Success Starts With Safety





## Mission Success Starts With Safety



7. 16. 2003







## Mission Success Starts With Safety







## Mission Success Starts With Safety



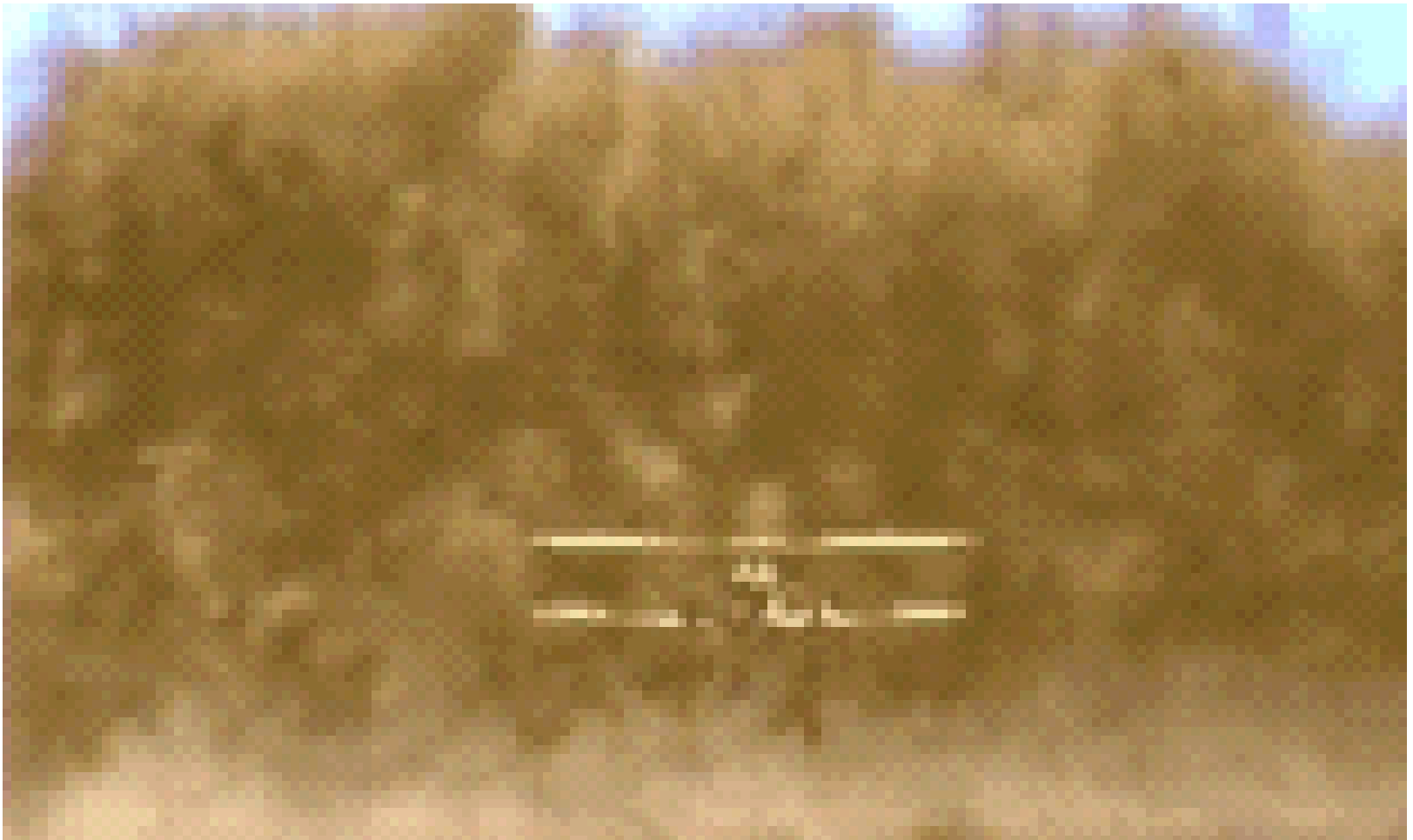


# **What it seemed like at Dryden!**





## Mission Success Starts With Safety





## Mission Success Starts With Safety





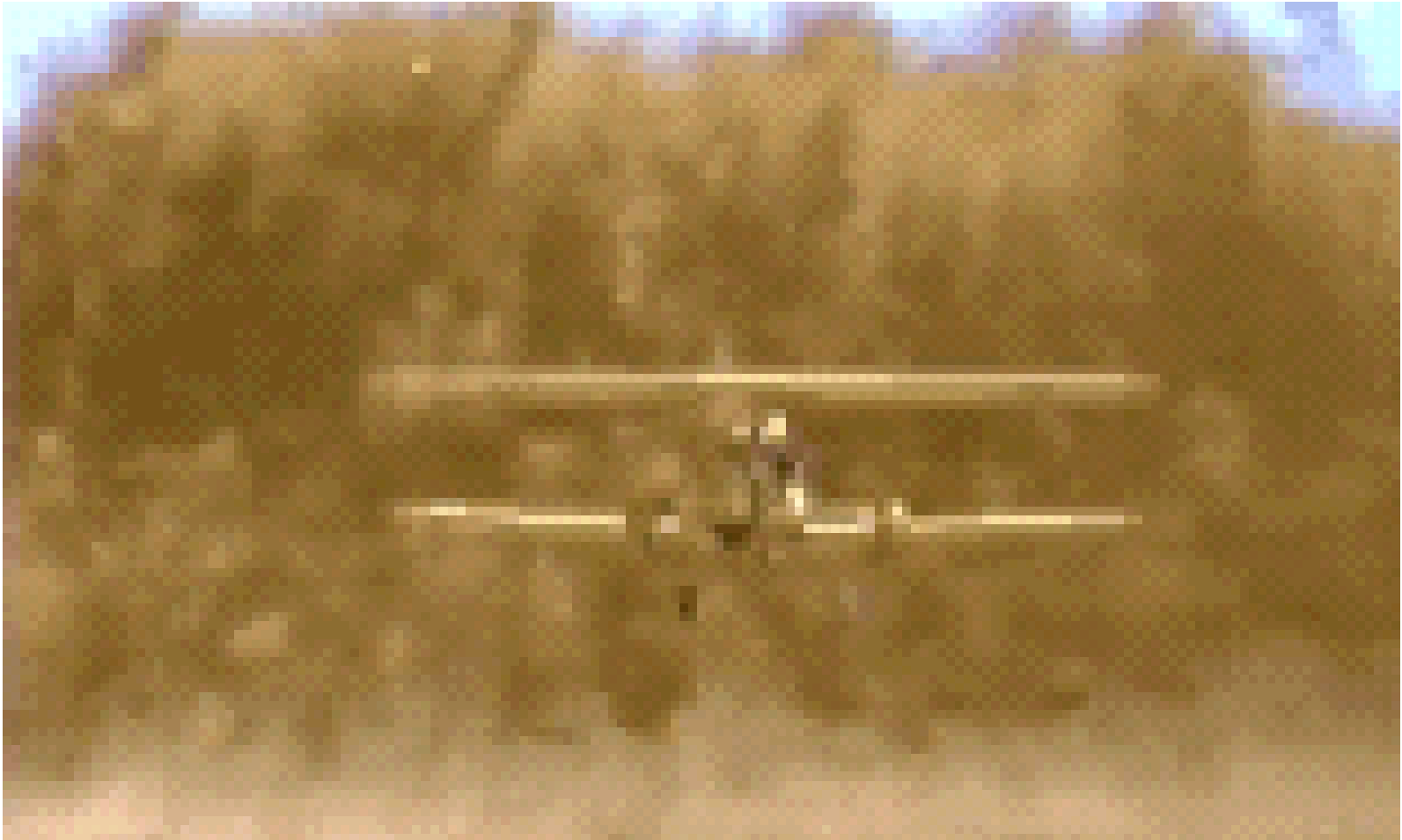
## Mission Success Starts With Safety







## Mission Success Starts With Safety







## Mission Success Starts With Safety





## Mission Success Starts With Safety





## Mission Success Starts With Safety





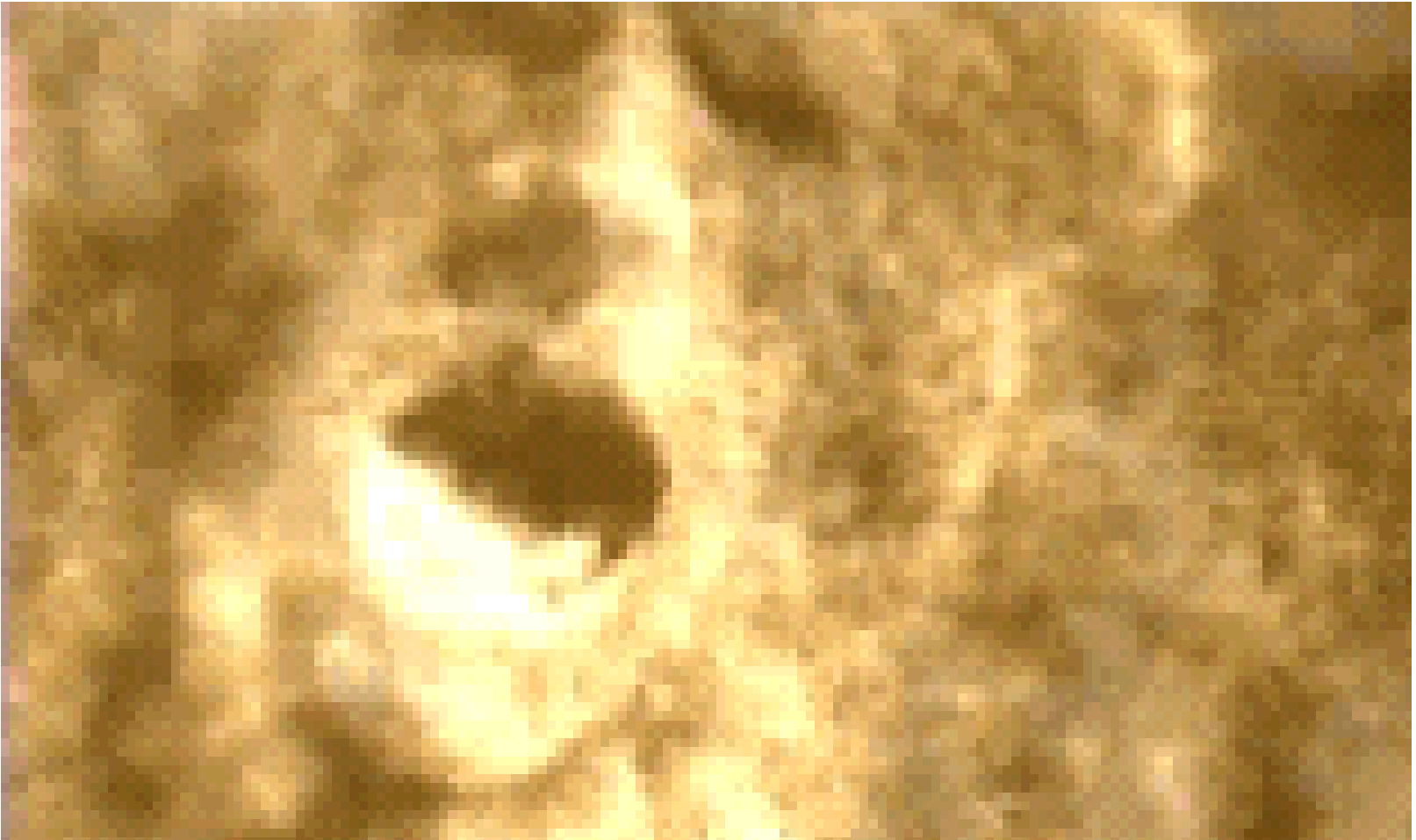


## Mission Success Starts With Safety



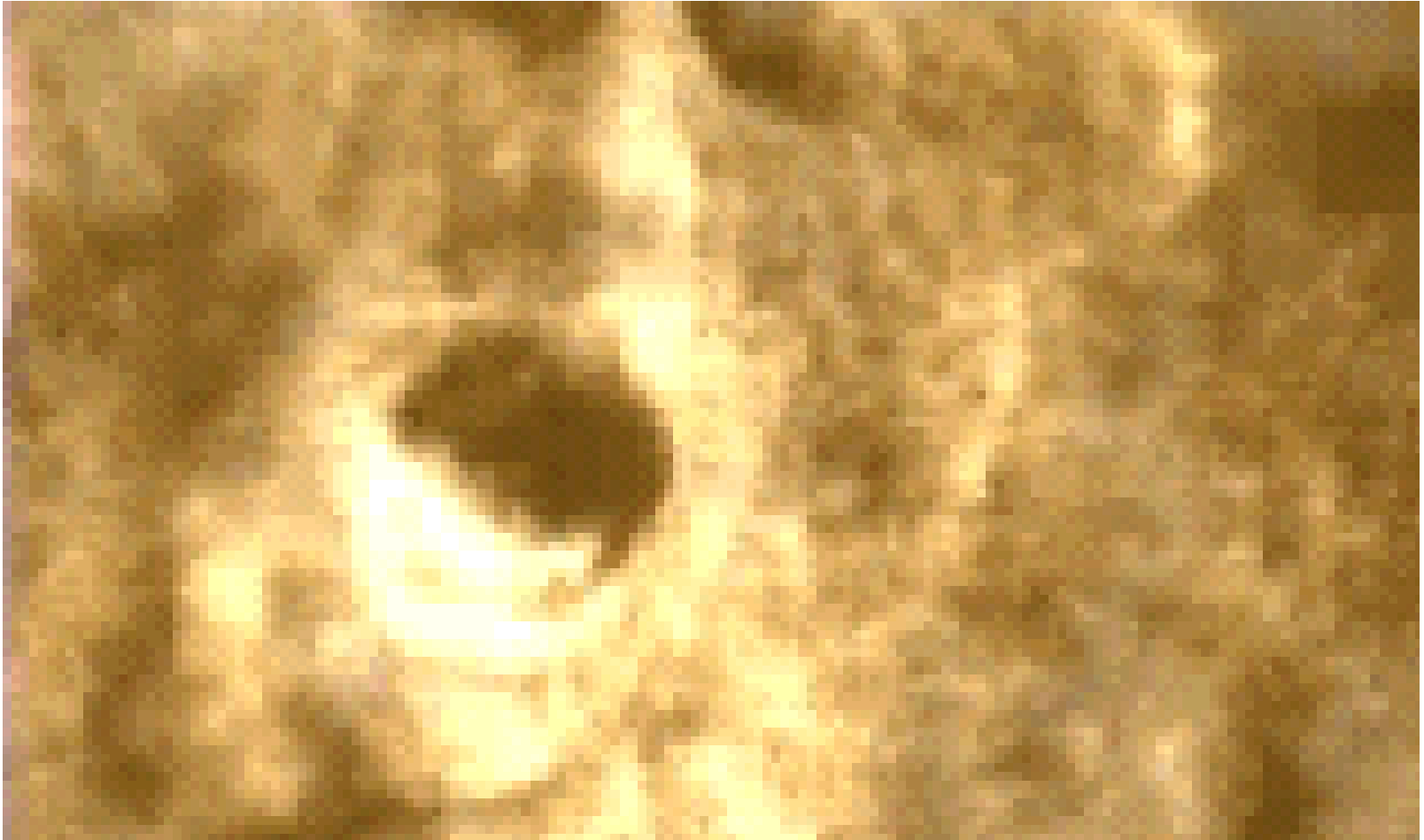


## Mission Success Starts With Safety



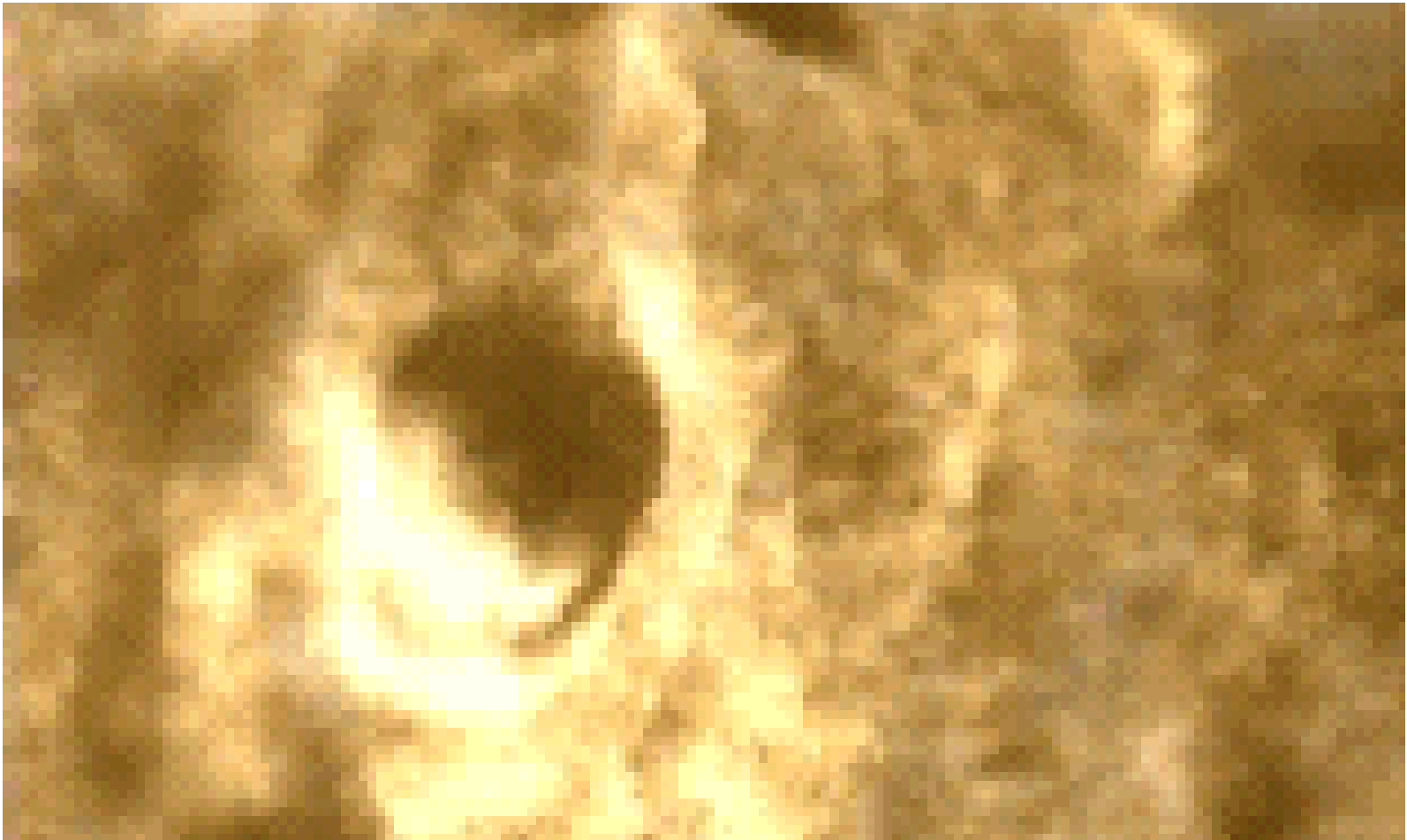


## Mission Success Starts With Safety



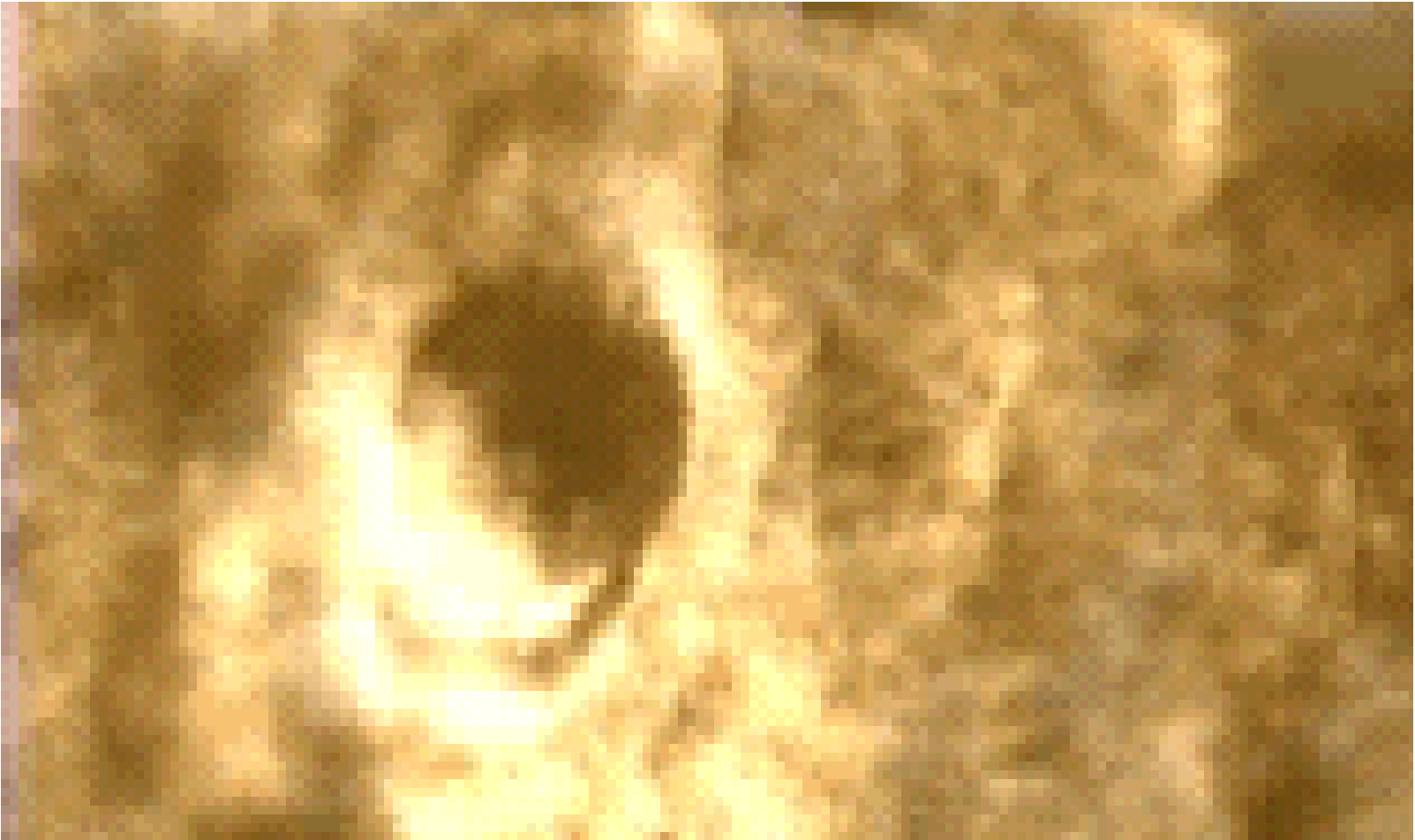


## Mission Success Starts With Safety





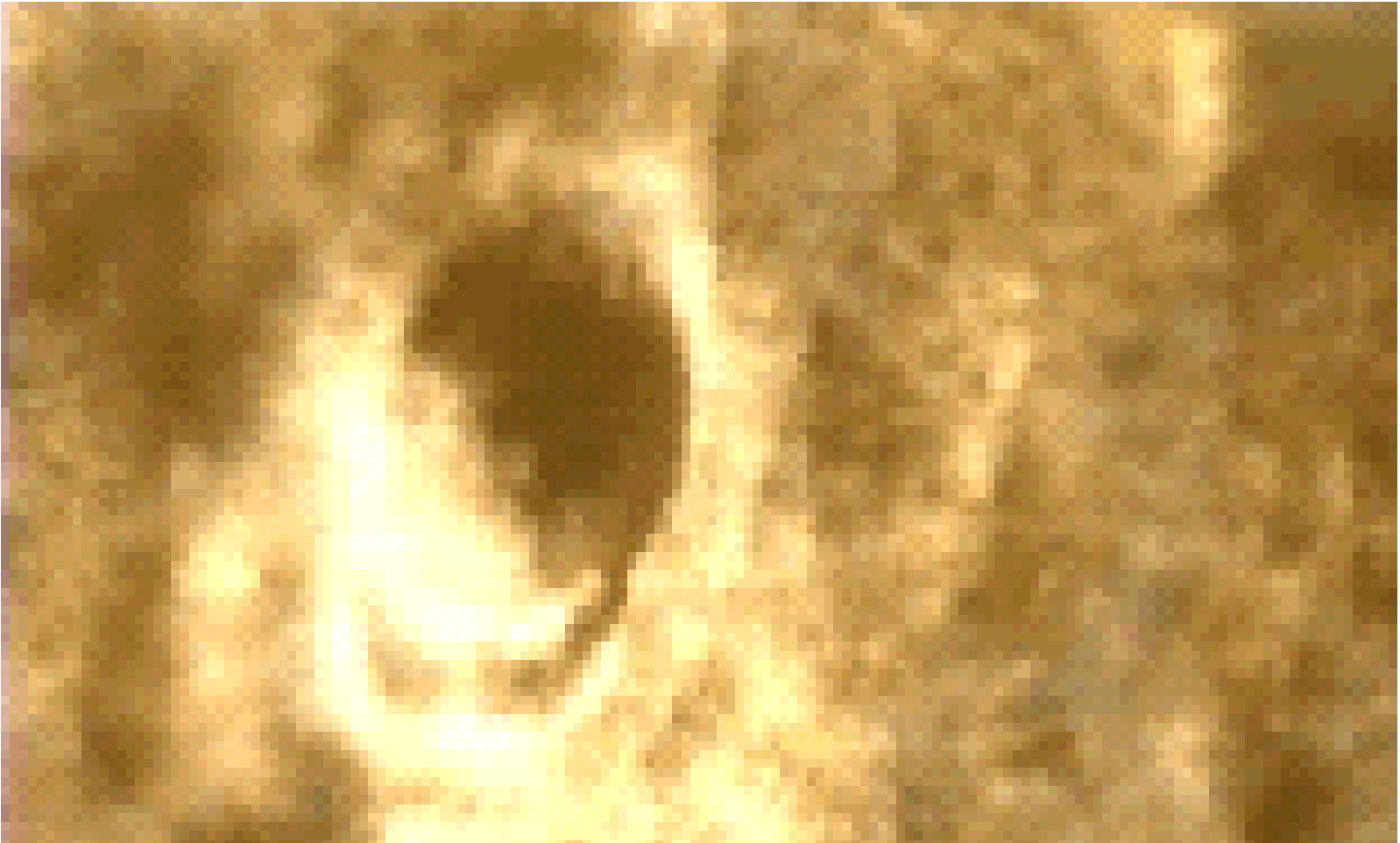
## Mission Success Starts With Safety







## Mission Success Starts With Safety





### **Problems- Event:**

- We were unprepared. No previous event to model. No real contingency plan. We did not realize what was occurring.
- Our emergency response infrastructure, communications, alarms, evacuation procedure failed or was maladaptive.
  - Dust set off smoke detectors. Fire alarms went off complex wide.
  - Employees evacuated into the complete darkness of a 100 year dust storm.
  - Our newly designed dispatch center was overcome with input and could not respond by radio, the PA system was inaccessible.





## Problems- Event(cont'd):

- Because alarms could not be silenced, evacuated personnel had to be retrieved to safety of buildings.

## Problems Post Event:

- Clean up. Damage Assessment
- Employee safety and health concerns.
- Procedural review.

**WE DID NOT EXPECT MORE 100 YEAR EVENTS! WE WERE WRONG.**





### Event-good things:

- During post 9-11 readiness review we enacted a plan to use the energy management control system for HVAC to enact a shut down of air intakes at 60% of our facilities in the event of Chem/Bio/Toxic Plume threat. We used this system to shut down intakes during the storm protecting our major buildings and our IT infrastructure. **You can get this free from HQ energy mgt. (formerly HQ JE)**

### Post event good things:

- Based on employee concerns, town hall meeting. This included the regional epidemiologist expert in “Valley Fever”, a dust born spore endemic to the San Joaquin Valley and the high desert. Our Medical Director moderated this event, with safety and health personnel presenting also. **Bottom line no cause for health alarm.**





### Follow on Actions:

- Procedures for HVAC shut down of outlying buildings.
- Revitalized Fire Warden Program which includes instruction in “**Shelter in Place**” in the event of hostile external environment.
- Briefing on “Shelter in Place” during January safety event.
- Clarification of command and control in severe weather events.
- Regular coordination and exercise mtg’s with Security, Medical and Safety.
- Early warning when able.
- Modification of smoke detector sequence on HVAC.







# **Preparation for the FY04 100 Yr. Event**





## Mission Success Starts With Safety







## Mission Success Starts With Safety





## Mission Success Starts With Safety





## Mission Success Starts With Safety





## Mission Success Starts With Safety





## Mission Success Starts With Safety

